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A new species of *Hersiliola* Thorell, 1870 (Araneae, Hersiliidae) from Turkey

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Abstract

A new species *Hersiliola turcica* **sp. n.** is described on the basis of both sexes from Southeast Turkey. Males of the new species have an extraordinarily long embolus and females have very long insemination ducts.

Keywords

Hersiliidae, *Hersiliola*, new species, Turkey

Introduction

Hersiliidae is a rather small, globally distributed entelegyne spider family that currently includes 167 species belonging to 15 genera (Platnick 2010). The majority of hersiliid species are found in tropical and subtropical regions. The family was the subject of several revisions for the Australian, Oriental, Neotropical, and Afrotropical faunas (Baehr and Baehr 1987, 1993, 1998; Rheims and Brescovit 2004a–b; Rheims et al. 2004;

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Foord and Dippenaar-Schoeman 2005a-b, 2006). Recently, the most speciose genus in the Palaearctic, *Hersiliola* Thorell, 1870, was revised by Marusik and Fet (2009). It was shown that the genus is distributed from western Africa to Xinjiang, NW China and in Asia was reported from Afghanistan, Israel, Iran, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan and Yemen. Currently *Hersiliola* contains 9 species (Marusik and Fet 2009). In Turkey , *Hersiliola macullulata* (Dufour, 1831) was recently reported from southernmost Hatay Province (Yağmur et al. 2008).

When the revision of the genus (Marusik and Fet, 2009) was published, it became clear that the specimens from Turkey belonged to an undescribed species with a very peculiar male palp. The aim of this paper is the description of the new species of *Hersiliola*.

Material and methods

A total of 15 specimens of *Hersiliola turcica* sp. n. (6 ♂♂, 7 ♀♀ and 2 juveniles) were collected between 2004 and 2008 from Gaziantep, Hatay, Kahramanmaraş, Kilis and Şanlıurfa Provinces which are located in the southeastern part of Turkey. The specimens were collected from irregular webs under stones by means of a hand aspirator.

Specimens were photographed using an Olympus Camedia E-520 camera attached to an Olympus SZX12 stereomicroscope. The images were montaged using "CombineZM" image stacking software. Specimens were photographed in dishes of different sizes with paraffin wax in the bottom. Holes were made in the paraffin wax to keep the specimens in the right position. All measurements are given in mm.

Material treated herein is deposited in the Senckenberg Museum (SMF, Frankfurt am Main, Germany), the Museum of Turkish Arachnological Society (MTAS, Ankara, Turkey) and in the Zoological Museum of the Moscow State University (ZMMU, Moscow, Russia).

Taxonomy

***Hersiliola turcica* sp. n.**
urn:lsid:zoobank.org:act:005B2FD9-F68C-4EDF-BF44-CAB9F973B76F

H. macullulata: Yağmur et al., 2008: 63, f. 2a–b (figures belong to *H. macullulata*).

Material: Holotype ♂ (SMF) **Kahramanmaraş Province**, Nurhak District, Yeşilkent (Kullar) Town [37°58'54.39"N; 37°30'56.01"E], 9.07.2006 (E.A. Yağmur & S. Anlaş). Paratypes: 1♀ 1juv. (SMF), **Kahramanmaraş Province**, Türkoğlu District [37°30'10.51"N; 36°51'07.60"E], 4.06.2006 (E.A. Yağmur & M. Özkörük);

Figures 1–3. Habitus and pattern of *Hersiliola turcica* sp. n. **1** holotype male, dorsal **2** female from Nizip District **3** female abdomen from Harran Town.

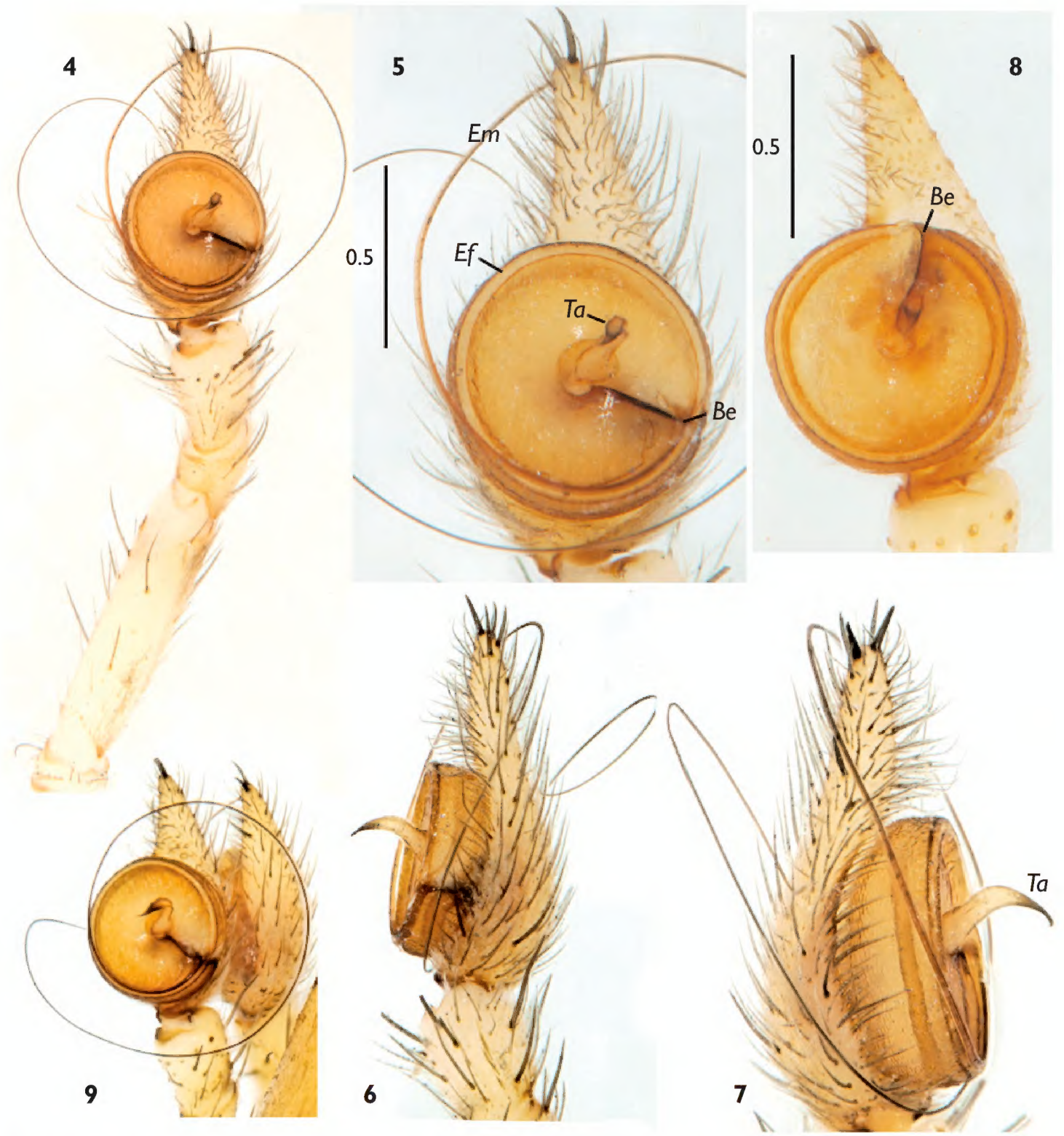
1♀ 1juv. (SMF), **Kahramanmaraş Province**, Elbistan District, Taşburun Village [38°10'03.68"N; 37°12'06.07"E], 17.06.2006 (E.A. Yağmur & M. Yalçın); 1♀ (ZMMU), **Gaziantep Province**, Nizip District, Türkyurdu Village [37°00'05.21"N; 37°38'44.54"E], 20.01.2008 (E.A. Yağmur & Gökhan Katırcı); 1♂ (ZMMU), **Şanlıurfa Province**, Birecik District, Birecik (Kelaynak) Valley [37°02'49.72"N; 37°59'28.88"E], 5.06.2004 (E.A. Yağmur & A. Akkaya); 1♂ (without embolus) (ZMMU), Şanlıurfa Province, Birecik District, Birecik (Kelaynak) Valley [37°02'49.72"N; 37°59'28.88"E], 5.06.2004 (E.A. Yağmur & A. Akkaya); 1♀ (ZMMU), **Şanlıurfa Province**, Harran Town [36°51'51.62"N; 39°01'54.54"E], 6.04.2006 (E.A. Yağmur & M.Z. Yıldız); 1♀ (ZMMU), **Kilis Province**, Musabeyli District, Kürtüncü Village [36°55'37.83"N; 36°58'41.30"E], 17.05.2006 (E.A. Yağmur & M. Özkörük); 3♂♂ 2♀♀ (MTAS), **Hatay Province**, Yayladağı District, Güveççi Village [(35°53'36.63"N, 36°09'38.10"E], 29.04.2007 (E.A. Yağmur & H.Koç).

Etymology. The specific name refers to the area of distribution.

Diagnosis. Males of the new species differ from all other congeners by the extremely long embolus with 3.5 coils, the position of embolic base, and the long tegular apophysis. Females of *H. turcica* sp. n. are similar to those of *H. macullulata*, *H. afghanica* and *H. sternbergsi* in the shape of epigynal plate, but can be distinguished by its proportions (height/width ratio). The vulva of new species is similar to that in *H. afghanica* in having numerous coils, but the two species can be easily separated by

the shape of the epigynal plate (which has no transverse part in *H. afghanica*) and the smaller receptacula in the new species.

Description. *Male* (holotype). Total length 5.65. Carapace 2.13 long, 2.25 wide, femur I 4.8, femur I/carapace length ratio 2.25. Pattern distinct, carapace with dark marginal bands, four pairs of dots and thin median stripe, cephalic area dark. Abdomen with rhomboidal cardiac spot and four pairs of transverse bands. The upper transverse band originates from the cardiac spot. Sides of abdomen with dark band. Legs with wide annulations.



Figures 4–9. Male palp of *Hersiliola turcica* sp. n. **4–5, 8–9** ventral **6** retrolateral **7** prolateral. **4–7** holotype **8–9** from Birecik. **8** palp with broken embolus. Abbreviations: ***Be*** base of embolus ***Ef*** tegular furrow for embolus ***Em*** embolus ***Ta*** tegular apophysis.

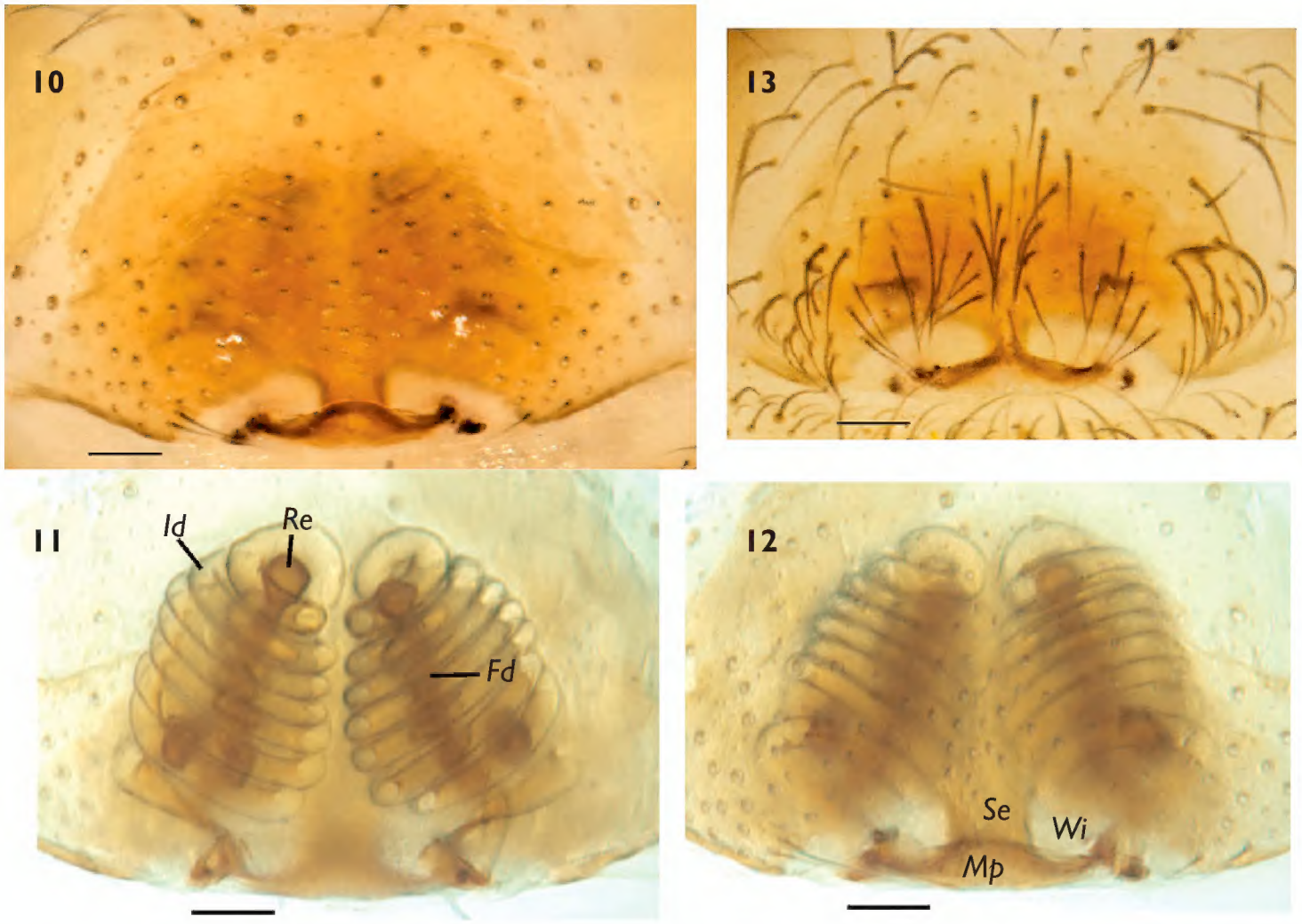
Palp as in Figs 4–9. Cymbium 1.43 long; tegulum round, its diameter 0.74; tegular apophysis (*Ta*) long, claw like, its length almost equal to tegular radius; base of embolus (*Be*) located at 4 o'clock, embolus (*Em*) very long and thin, with approximately 3.5 coils, in resting position located in furrow (*Ef*) running around edge of tegulum. Number of coils is unclear because in all specimens examined, embolus either broken or removed from the tegular furrow.

Female. Total length 5.75–6.75. Carapace 2.25–2.38 long, 2.18–2.43 wide, femur I 30.8–3.75, femur I/carapace length ratio 1.37–1.58. Coloration variable from light to dark. Dark specimens with indistinct abdominal pattern.

Epigyne as in Figs 10–13, size slightly variable; with a distinct median plate (*Mp*) and windows, proportions of median plate and atria slightly variable; septum (*Se*) as wide as height of epigynal plate, insemination duct (*Id*) very long, with seven coils around fertilization duct (*Fd*); receptacula (*Re*) small and round, diameter equal to that of insemination duct.

Note. One male from Birecik District has totally broken embolus (Fig. 8) and a rotated tegulum that caused translocation of the position of embolic base.

Distribution. The specimens were collected from several provinces in Southeastern Turkey (Gaziantep, Hatay, Kahramanmaraş, Kilis and Şanlıurfa) (Fig.14).



Figures 10–13. Epigyne of *Hersiliola turcica* sp. n. **10, 12–13** ventral **11** dorsal. **11, 12** after maceration in lactic acid. **10–12** from Kahramanmaraş Province **13** from Nizip District. Scale = 0.1 mm. Abbreviations: ***Fd*** fertilisation duct ***Id*** insemination duct ***Mp*** median plate ***Re*** receptaculum ***Se*** septum ***Wi*** window.

BULGARIA
Black Sea
GEORGIA
Tbilisi
ARMENIA
Yerevan
İstanbul
Ankara
TURKEY
İzmir
Bursa
Konya
Antalya
Adana
Mersin
Adıyaman
Kahramanmaraş
Şanlıurfa
Diyarbakır
Malatya
Elazığ
Erzurum
Trabzon
Samsun
Sivas
Kayseri
Eskişehir
Kütahya
Afyon
Denizli
Aydın
Manisa
Muğla
Isparta
Burdur
Uşak
Osmaniye
Gaziantep
Kilis
Halab
Antakya
İskenderun
Idlib
Al Lādhiqīyah
Ar Raqqah
Dayr az Zawr
SYRIA
IRAQ
Mosul
Irbil
Kirkuk
Al Qāmishlī
Hasakah
Hamāh
Ḥimş
SYRIAN DESERT
Mediterranean Sea
AEGEAN ISLANDS
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Van
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Kutaisi
Trabzon
Rize
Artvin
Kars
Erzincan
Bingol
Muş
Bitlis
Siirt
Batman
Mardin
Şırnak
Hakkari
Cizre
Zakho
Kızıltepe
Ceylanpınar
Tall 'Afar
Al Ḥasakah
Manbij
Kobanî
Sürmene
Kilis
Reyhanlı
Bānīyās
Ṭarṭūs
Al Mayādīn
Sinop
Zonguldak
Karabük
Kastamonu
Çankırı
Amasya
Tokat
Çorum
Yozgat
Kırıkkale
Kırşehir
Nevşehir
Aksaray
Niğde
Karaman
Seydişehir
Akşehir
Afyon
Bolvadin
Çay
Şuhut
Sandıklı
Dinar
Afyon
Uşak
Simav
Kütahya
Tavşanlı
Emet
Gediz
Simav
Demirci
Akhisar
Soma
Manisa
Salihli
Ödemiş
Nazilli
Aydın
Milas
Bodrum
Fethiye
Alanya
Manavgat
Serik
Side
Finike
Kaş
Kemer
Elmalı
Korkuteli
Gölhisar
Tefenni
Yeşilova
Bucak
Gölhisar
Burdur
Isparta
Eğirdir
Yalvaç
Sarıkaya
Yerköy
Yozgat
Çekerek
Boğazlıyan
Sorgun
Akdağmadeni
Yerköy
Çorum
Osmancık
Kargı
Alaca
Mecitözü
Ortaköy
Sungurlu
Iskilip
Çerkeş
Ilgaz
Çankırı
Çankırı
Çerkeş
Ilgaz
Kastamonu
Tosya
Merzifon
Amasya
Taşova
Turhal
Niksar
Erbaa
Tokat
Zile
Pazar
Ünye
Ordu
Giresun
Şebinkarahisar
Tirebolu
Görele
Giresun
Şebinkarahisar
Gümüşhane
Kelkit
Şiran
Torul
Köse
Gümüşhane
Bayburt
Aşkale
Pasinler
Hınıs
Tekman
Karayazı
Tutak
Narman
Oltu
Olur
Şenkaya
Tortum
Karaçoban
Uzundere
Pazaryolu
Çat
Aşkale
Horasan
Karakoçan
Tunceli
Pülümür
Hozat
Ovacık
Çemişgezek
Pertek
Mazgirt
Nazımiye
Ovacık
Tunceli
Elazığ
Karakoçan
Sivrice
Palu
Çüngüş
Kulp
Lice
Hani
Dicle
Çermik
Çınar
Çüngüş
Dicle
Kocaköy
Bismil
Çermik
Çınar
Çüngüş
Ergani
Maden
Silvan
Eğil
Hazro
Dicle
Kocaköy
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Kulp
Lice
Hani
Dicle
Kocaköy
Bismil
Çermik
Çınar
Çüngüş
Ergani
Maden
Silvan
Eğil
Hazro

Key to the *Hersiliola* species

1. Male **2**
– Female 7
2. Embolus very long, with about 3.5 coils, embolic base at about 4 o'clock, tegular apophysis sharply pointed ..... ***H. turcica* sp. n**
– Embolus shorter, embolic base at different position..... **3**
3. Embolic base at about 12–12:30 o'clock **4**
– Embolic base at different position **5**
4. Embolus makes less than one coil, tegular apophysis blunt, tip of cymbium is about one radius of the tegulum .....***H. esyunini***
– Embolus makes almost one coil, tegular apophysis not blunt, tip of cymbium is about one diameter of the tegulum .....***H. sternbergsi***
5. Tegular apophysis blunt ..... ***H. xinjiangensis***
– Tegular apophysis not blunt..... **6**
6. Embolic base at about 11 o'clock ..... ***H. simoni***
– Embolic base at about 5:30 o'clock .....***H. macullulata***
7. Epigyne without distinct windows and/or without distinct median plate **8**
– Epigyne with distinct windows and plate **9**
8. Median plate absent, receptacula round, insemination duct makes at least 7 coils .....***H. lindbergi***
– Median plate present, receptacula oval, insemination duct makes only 1 coil... .....***H. foordi***
9. Insemination duct with 5 or more coils..... **10**
– Insemination duct with less than 5 coils..... **11**
10. Insemination duct with 7 coils..... ***H. turcica* sp. n.**
– Insemination duct with 5–6 coils.....***H. macullulata***
11. Septum thinner than median plate height part of the median plate rounded .....***H. esyunini***
– Septum wider than median plate height..... **12**
12. Size > 5.5 mm..... ***H. xinjiangensis***
– Size < 5.5 mm..... **13**
13. Median plate triangle shaped .....***H. versicolor***
– Median plate transversal..... **14**
14. Receptaculum droplet shaped **15**
– Receptaculum with conical terminal outgrowth ..... ***H. simoni***
15. Receptaculum thinner than window .....***H. sternbergsi***
– Receptaculum wider than window ..... ***H. afghanica***

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